

TROPICAL RAINFALL MEASURING MISSION

September 21, 1998 - September 27, 1998
DOY 264-270

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction as of 98-265, at 15:13:05z.
- The next Yaw maneuver is scheduled for October 17 (290).
- The next Delta-V maneuver is scheduled for September 30 (273) using the ISP thrusters.
- All CERES operations are on hold until further notice.
- The Beta angle range for DOY 271 to 277 is -23.4° to -39.4° .

TRMM SUBSYSTEM OPERATIONS

Attitude Control System

A +X to -X 180° Yaw maneuver was successfully conducted on September 22 (98-265) at 15:13:05z

Delta-V maneuver #45 was successfully conducted on 98-265 at 16:26:51z and 17:11:08z, for durations of 33 and 17 seconds, respectively, using the ISP thrusters. The -Pitch thruster (#6) off-modulation was 35.2% and 25%, respectively (64.8% and 75% on time). The remaining fuel is 806.9 kg and the final apogee and perigee height is 354.67 km x 347.65 km.

Delta-V maneuver #46 was successfully conducted on 98-269 at 16:18:10z and 17:03:58z, for durations of 41 and 22 seconds, respectively, using the ISP thrusters. The -Pitch thruster (#6) off-modulation was 36.6% and 36.4%, respectively (63.4% and 63.6% on time). The remaining fuel is 805.4 kg and the final apogee and perigee height is 354.71 km x 347.30 km.

The ESA experienced Moon interference in quadrants 1 and 3 during this week's period. The ACS performed nominally during the transition between 3 and 4 head control with only occasional reaction wheel limiting. Trending is being performed to determine whether VIRS science data is affected by the quadrant transitions.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The Frequency Standard continues to drift in the negative direction. The frequency remains at x738. The current drift rate is $-2.4 \mu\text{s/hr}$.

The UTCF remains at 31535997.878666 sec. The current drift value is $-816 \mu\text{s}$.

FOT dwell monitoring revealed that flywheel condition occurred on 98-270.

Q-Channel Restarts occurred on 98-265 at 20:22z, 98-266 at 05:08z and 16:06, 98-267 at 06:46z and 08:25z, and 98-270 at 21:00z.

EDAC Multi-bit errors were received on 98-264 at 07:51z, 98-267 at 04:30, and 98-270 at 10:32z.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for Delta-V information.

Power Subsystem

Battery-2 Cell-1 is still reaching maximums of 1.51 - 1.52 V. The power subsystem is being closely monitored.

Electrical Subsystem

The Electrical subsystem operated nominally during this period.

Thermal Subsystem

The Thermal subsystem operated nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

RF/Communications Subsystem

The RF/Communications subsystem has performed nominally during this time.

Two generic late acquisitions occurred during the week with no loss of data (see Late Acquisition Report section for more information).

SPACECRAFT INSTRUMENTS

CERES

CERES remains powered off until CERES personnel develop a plan for operating the instrument with the +15 V DAA voltage anomaly.

Internal Calibrations		Solar Calibrations	
<u>Date</u>	<u>Time</u>	<u>Date</u>	<u>Time</u>
N/A	N/A	N/A	N/A

LIS

LIS performed nominally during this time period.

PR

PR performed nominally during this time period.

TMI

TMI performed nominally during this time period.

VIRS

VIRS performed nominally during this time period.

VIRS warning messages continue to occur.

The VIRS coldstage temperature reached a maximum of 117.2 °K near 0° solar beta angle on 98-266.

GROUND SYSTEM

Y2K implementation Phase 1 has completed and Phase 2 is beginning this week. String 2 is now used as the primary realtime string and string 3 is used as the hot back-up.

The SN user 48-hour MDM/IP acceptance test on 98-267-12:00 to 98-269-12:00 was a success. There was a total of 38 passes taken on the IP network with no data loss. On the first pass of the test at 98-267-12:02, the MOC did not receive Q-channel data for 3-4 minutes due to a misconfiguration at NASCOM. All data was retransmitted and no similar problems occurred for the remainder of the test.

There was a DSN IP test with Canberra on 98-267 at 17:59z to 18:05z. The S/C was acquired late at 18:01:44z due to a problem with the prime telemetry receiver (JPL DR #A02968). The MOC was unable to command until 18:03:37z due to JPL having an incorrect command IP address (JPL DR #N48448). A no-op command did successfully reach command ingest.

The State Manager crashed on the primary string on 98-269, for the 10:37z event, causing a failover to the backup string (see Event Report #61). The problem was corrected with a front end processor reboot.

On the first pass on the legacy system after the 48 hour IP test at 98-269-12:14, the MOC was unable to command for nine minutes due to a demux failure at NASCOM (see Event Report #62). Operations were not impacted.

The prime string stopped processing Q-channel data during a playback on 98-270, for the 00:30z event, causing a failover to the backup string(see Event Report #63). The problem was corrected with a front end processor reboot with no reoccurrence of the problem.

EVENT REPORTS

#61 Unable to command/Failed Over to Backup String
#62 Demux Problem at NASCOM on Legacy
#63 Prime String Quit Processing 'Q' Channel Data

Late Acquisition Reports (for TTRs 19639)

#20 On 98-266: TDE/SA1; 1 minute 23 seconds.
#21 On 98-268: TDE/SA1; 1 minute 32 seconds.

NEW ANOMALIES

No new Anomaly Reports were written during this time.

RECURRING OPEN ANOMALIES

51 Pri S/C TC Mode on 98-270.

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